

HOBBS OCD
SEP 20 2012

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No NMNM127894
1b Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Cimarex Energy Co.		7. If Unit or CA Agreement, Name and No.
3a. Address 600 N. Marienfeld St., Ste. 600; Midland, TX 79701		8. Lease Name and Well No. Diamondtail 23 Federal No. 5439458
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-025-4077/
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At Surface 330 FNL & 2055 FWL Unit B At proposed prod Zone 330 FSL & 2310 FEL Unit A Horizontal Bone Spring test		10. Field and Pool, or Exploratory Diamondtail; Bone Spring
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area 23-23S-32E
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drg. unit line if any) 330'	16. No of acres in lease 640	17. Spacing Unit dedicated to this well W2E2 160 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 150' from #6	19. Proposed Depth MD 15426' TVD 10920'	20. BLM/BIA Bond No on File NM-2575
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3724' GR	22. Approximate date work will start* 12.01.12	23. Estimated duration 30-35 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above) |
| 2. A Drilling Plan | 5. Operator Certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer |

25. Signature 	Name (Printed/Typed) Terri Stathem	Date 06.28.12
Title Regulatory		
Approved By (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date SEP 18 2012
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction

* (Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

SEP 25 2012

Drilling Plan
Diamondtail 23 Federal 5
 Cimarex Energy Co.
 Unit C, Section 23
 T23S-R32E; Lea County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

- 1 **Location:** SHL 330 FNL & 2055 FWL
 BHL 330 FSL & 2310 FEL

- 2 **Elevation above sea level:** 3724' GR

- 3 **Geologic name of surface formation:** Quaternary Alluvium Deposits

- 4 **Drilling tools and associated equipment:** Conventional rotary drilling rig using fluid as a circulating medium for solids removal.

- 5 **Proposed drilling depth:** MD 15426' TVD 10920'

- 6 **Estimated tops of geological markers:**

Rustler	1200
T. Salt	1520
Castille	3590
B. Salt	4680
Delaware	4980
Basal Brushy Canyon	8470
Bone Spring	8750
Avalon Shale	9430
1st Bone Spring	9930'
2nd Bone Spring	10625'
3rd Bone Spring	11100'

- 7 **Possible mineral bearing formations:**

Bone Spring	Oil
Avalon Shale	Oil

8 **Proposed Mud Circulating System:**

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 1225' 1340	8.4 - 8.6	28	NC	FW
1225' to 4900'	10.0	30-32	NC	Brine water
4900' to 15426'	8.4	30-32	NC	2% KCL

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

Proposed Drilling Plan

Drill 8¾" hole to 10634'. Drill 8¾" lateral through the curve to TD @ 15426' MD, 10920' TVD. Run 5½" 17# P-110 LTC from 0-15426' and cement.

Drilling Plan
Diamondtail 23 Federal 5
 Cimarex Energy Co.
 Unit C, Section 23
 T23S-R32E; Lea County, NM

9 Casing & Cementing Program:

See COA

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface	17 1/2"	0' to 1225'	New 13 3/8"	48#	STC	H-40
Intermediate	12 1/4"	0' to 4900'	New 9 5/8"	40#	LTC	J-55
Production	7 7/8"	0' to 15426'	New 5 1/2"	17#	LTC	P-110

10 Cementing:

Surface

Lead: 810SKS Premium Plus + 2% CaCl 4% gel 13.5ppg 1.75 yield 115% Excess
 Tail: 200SKS Premium Plus + 2% CaCl 14.8ppg 1.34 yield 10% Excess
TOC Surface Centralizers per Onshore 2.III.B.1.f

Intermediate

Lead: 1555SKS HLPP + 5% Salt + 5# Gilsonite 12.9ppg 1.92 yield 120% Excess
 Tail: 235SKS Premium Plus + 1% CaCl 14.8ppg 1.34 yield 0% Excess
TOC Surface

Production

Lead: 835SKS Econocem H + 0.5/10% HR-601 0.5/10% Halad-322 11.9ppg 2.48 yield 53% Excess
 Tail: 1385SKS Versacem H + 0.5% Halad(R)-344 + 0.4% CFR-3 + 1# Salt + 0.2% HR-601 14.5ppg 1.22 yield 25% Excess
TOC 3600' Centralizers every 3rd joint in lateral to provide adequate cement coverage every 100' unless lateral doglegs require greater spacing between centralizers.

Depth to ground water is 475' according to the State Engineer. Fresh water zones will be protected by setting 13 3/8" casing at 1225' and cementing to surface and 9 5/8" casing at 4900' and cementing to surface. Hydrocarbon zones will be protected by setting 5 1/2" casing at 15426' and cementing to 3600'.

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

11 Pressure control Equipment:

Exhibit "E". A 13 3/8" 5000 PSI working pressure B.O.P. consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 6000'. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor. Mud gas separator will be available if drilling in H2S areas.

BOP unit will be hydraulically operated. BOP will be nipped up and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system.

Before drilling out of the surface pipe BOP's will be tested to 250 psi low and 3000 psi high by an independent service company. Hydril will be tested to 250 psi low and 1500 psi high. Before drilling out of the intermediate pipe BOP's will be tested by an independent service company to 250 psi low and 5000 psi high. Hydril will be tested to 250 psi low and 2500 psi high.

Cimarex Energy Co. of Colorado (operator) requests a variance if Cactus 115 (rig name) is used to drill this well to use a co-flex line between the BOP and choke manifold.

Manufacturer: Midwest Hose & Specialty

Serial Number: 59473

Length: 35' Size: 4-1/16" Ends - flanges/clamps

WP rating: 10,000 psi Anchors required by manufacturer - Yes/No

Drilling Plan
Diamondtail 23 Federal 5
Cimarex Energy Co.
Unit C, Section 23
T23S-R32E; Lea County, NM

12 Testing, Logging and Coring Program: *See COA*

- A. Mud logging program: 2 man unit from 4900 to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR - Surface to TD (0-15426')
- C. No DSTs or cores are planned at this time.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H₂S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H₂S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H₂S Safety package on all wells, attached is an "H₂S Drilling Operations Plan." Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP **4900 psi** Estimated BHT **130°**

14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take 30-35 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Bone Spring pay will be perforated and stimulated.

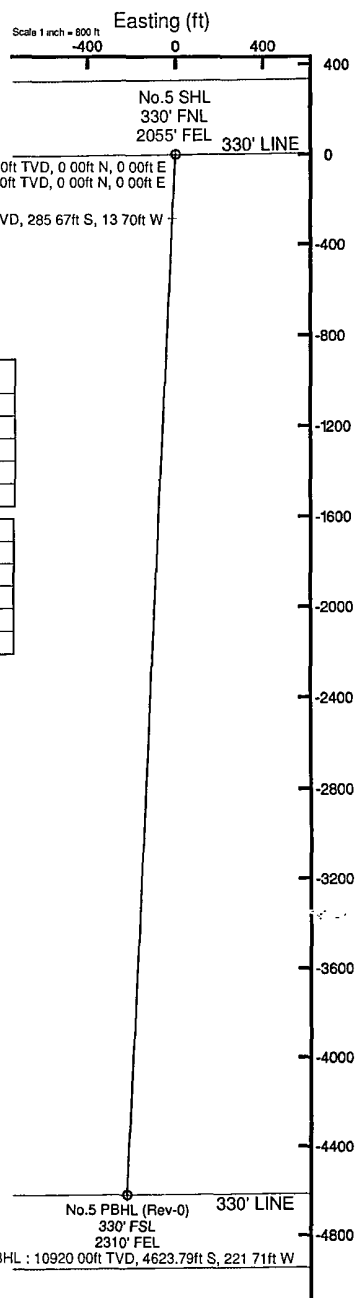
The proposed well will be tested and potentialized as **an oil well.**



Cimarex Energy Co.

Location: Lea County, NM
Field: (Diamondtail) Sec 23, T23S, R32E
Facility: Diamondtail 23 Federal No.5

Slot: No.5 SHL
Well: No.5
Wellbore: No.5 PWB



Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	182.745	0.00	0.00	0.00	0.00	0.00
Est KOP	10634.00	0.000	182.745	10634.00	0.00	0.00	0.00	0.00
EOC	11083.25	90.000	182.745	10920.00	-285.67	-13.70	20.03	286.00
No.5 PBHL	15426.35	90.000	182.745	10920.00	-4623.79	-221.71	0.00	4629.10

Plot reference wellpath is Rev-A 0

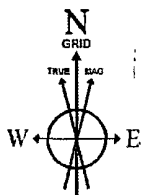
True vertical depths are referenced to Rig on No.5 SHL (RT) Grid System NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet

Measured depths are referenced to Rig on No.5 SHL (RT) North Reference Grid north

Rig on No.5 SHL (RT) to Mean Sea Level: 3724 feet Scale: True distance

Mean Sea Level to Mud line (At Slot No.5 SHL): -3724 feet Depths are in feet

Coordinates are in feet referenced to Slot Created by gentibry on 4/11/2012

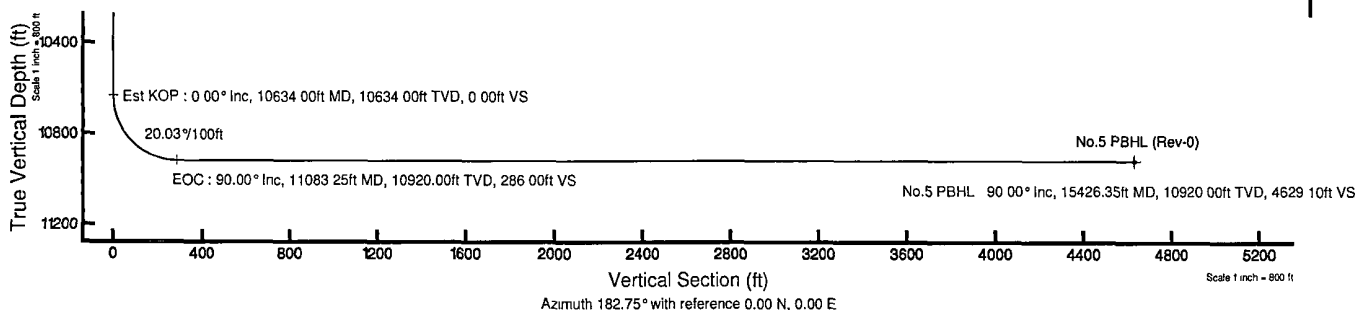


BGGM (1945.0 to 2013.0) Dip: 60.18° Field: 48571.9 nT
Magnetic North is 7.60 degrees East of True North (at 4/11/2012)
Grid North is 0.37 degrees East of True North

To correct azimuth from True to Grid subtract 0.37 degrees

To correct azimuth from Magnetic to Grid add 7.23 degrees

For example: If the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.23 = 97.23





Planned Wellpath Report

Rev-A.0

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.5 SHL
Area	Lea County, NM	Well	No.5
Field	(Diamondtail) Sec 23, T23S, R32E	Wellbore	No.5 PWB
Facility	Diamondtail 23 Federal No.5		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Gentbry
Scale	0.999961	Report Generated	4/11/2012 at 11:28:06 AM
Convergence at slot	0.37° East	Database/Source file	WA Midland/No.5_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W
Facility Reference Pt			754481.10	472312.40	32°17'47.673"N	103°38'36.688"W
Field Reference Pt			753067.10	472297.00	32°17'47.610"N	103°38'53.162"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No.5 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No.5 SHL (RT) to Mean Sea Level	3724.00ft
Vertical Reference Pt	Rig on No.5 SHL (RT)	Rig on No.5 SHL (RT) to Mud Line at Slot (No.5 SHL)	0.00ft
MD Reference Pt	Rig on No.5 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	182.75°



Planned Wellpath Report

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Field	(Diamondtail) Sec 23, T23S, R32E	Wellbore	No.5 PWB
Facility	Diamondtail 23 Federal No.5		

WELLPATH DATA (167 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	182.745	0.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	Tie On
100.00†	0.000	182.745	100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
200.00†	0.000	182.745	200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
300.00†	0.000	182.745	300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
400.00†	0.000	182.745	400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
500.00†	0.000	182.745	500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
600.00†	0.000	182.745	600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
700.00†	0.000	182.745	700.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
800.00†	0.000	182.745	800.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
900.00†	0.000	182.745	900.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
1000.00†	0.000	182.745	1000.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
1100.00†	0.000	182.745	1100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
1200.00†	0.000	182.745	1200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	Rustler
1300.00†	0.000	182.745	1300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
1400.00†	0.000	182.745	1400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
1500.00†	0.000	182.745	1500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
1520.00†	0.000	182.745	1520.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	Salt
1600.00†	0.000	182.745	1600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
1700.00†	0.000	182.745	1700.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
1800.00†	0.000	182.745	1800.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
1900.00†	0.000	182.745	1900.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
2000.00†	0.000	182.745	2000.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
2100.00†	0.000	182.745	2100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
2200.00†	0.000	182.745	2200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
2300.00†	0.000	182.745	2300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
2400.00†	0.000	182.745	2400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
2500.00†	0.000	182.745	2500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
2600.00†	0.000	182.745	2600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
2700.00†	0.000	182.745	2700.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
2800.00†	0.000	182.745	2800.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
2900.00†	0.000	182.745	2900.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
3000.00†	0.000	182.745	3000.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
3100.00†	0.000	182.745	3100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
3200.00†	0.000	182.745	3200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
3300.00†	0.000	182.745	3300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
3400.00†	0.000	182.745	3400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
3500.00†	0.000	182.745	3500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
3590.00†	0.000	182.745	3590.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	Castille
3600.00†	0.000	182.745	3600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
3700.00†	0.000	182.745	3700.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
3800.00†	0.000	182.745	3800.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
3900.00†	0.000	182.745	3900.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
4000.00†	0.000	182.745	4000.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
4100.00†	0.000	182.745	4100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
4200.00†	0.000	182.745	4200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	



Planned Wellpath Report

Rev-A.0
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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.5 SHL
Area	Lea County, NM	Well	No.5
Field	(Diamondtail) Sec 23, T23S, R32E	Wellbore	No.5 PWB
Facility	Diamondtail 23 Federal No.5		

WELLPATH DATA (167 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4300.00†	0.000	182.745	4300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
4400.00†	0.000	182.745	4400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
4500.00†	0.000	182.745	4500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
4600.00†	0.000	182.745	4600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
4680.00†	0.000	182.745	4680.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	Base last salt
4700.00†	0.000	182.745	4700.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
4800.00†	0.000	182.745	4800.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
4900.00†	0.000	182.745	4900.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
4980.00†	0.000	182.745	4980.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	Delaware Sands
5000.00†	0.000	182.745	5000.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
5100.00†	0.000	182.745	5100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
5200.00†	0.000	182.745	5200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
5300.00†	0.000	182.745	5300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
5400.00†	0.000	182.745	5400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
5500.00†	0.000	182.745	5500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
5600.00†	0.000	182.745	5600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
5700.00†	0.000	182.745	5700.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
5800.00†	0.000	182.745	5800.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
5900.00†	0.000	182.745	5900.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
6000.00†	0.000	182.745	6000.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
6100.00†	0.000	182.745	6100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
6200.00†	0.000	182.745	6200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
6300.00†	0.000	182.745	6300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
6400.00†	0.000	182.745	6400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
6500.00†	0.000	182.745	6500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
6600.00†	0.000	182.745	6600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
6700.00†	0.000	182.745	6700.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
6800.00†	0.000	182.745	6800.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
6900.00†	0.000	182.745	6900.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
7000.00†	0.000	182.745	7000.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
7100.00†	0.000	182.745	7100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
7200.00†	0.000	182.745	7200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
7300.00†	0.000	182.745	7300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
7400.00†	0.000	182.745	7400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
7500.00†	0.000	182.745	7500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
7600.00†	0.000	182.745	7600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
7700.00†	0.000	182.745	7700.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
7800.00†	0.000	182.745	7800.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
7900.00†	0.000	182.745	7900.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
8000.00†	0.000	182.745	8000.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
8100.00†	0.000	182.745	8100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
8200.00†	0.000	182.745	8200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
8300.00†	0.000	182.745	8300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
8400.00†	0.000	182.745	8400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
8470.00†	0.000	182.745	8470.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	Basal Brushy Canyon



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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.5 SHL
Area	Lea County, NM	Well	No.5
Field	(Diamondtail) Sec 23, T23S, R32E	Wellbore	No.5 PWB
Facility	Diamondtail 23 Federal No.5		

WELLPATH DATA (167 stations) - † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8500.00†	0.000	182.745	8500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
8600.00†	0.000	182.745	8600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
8700.00†	0.000	182.745	8700.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
8750.00†	0.000	182.745	8750.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	Bone Spring
8800.00†	0.000	182.745	8800.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
8900.00†	0.000	182.745	8900.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9000.00†	0.000	182.745	9000.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9100.00†	0.000	182.745	9100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9200.00†	0.000	182.745	9200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9300.00†	0.000	182.745	9300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9400.00†	0.000	182.745	9400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9430.00†	0.000	182.745	9430.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	Avalon Shale
9500.00†	0.000	182.745	9500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9600.00†	0.000	182.745	9600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9700.00†	0.000	182.745	9700.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9800.00†	0.000	182.745	9800.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9900.00†	0.000	182.745	9900.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
9930.00†	0.000	182.745	9930.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	1st BSS
10000.00†	0.000	182.745	10000.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
10100.00†	0.000	182.745	10100.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
10200.00†	0.000	182.745	10200.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
10300.00†	0.000	182.745	10300.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
10400.00†	0.000	182.745	10400.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
10500.00†	0.000	182.745	10500.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
10600.00†	0.000	182.745	10600.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	
10625.00†	0.000	182.745	10625.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	2nd BSS
10634.00	0.000	182.745	10634.00	0.00	0.00	0.00	754481.10	472312.40	32°17'47.673"N	103°38'36.688"W	0.00	Est KOP
10700.00†	13.222	182.745	10699.42	7.58	-7.57	-0.36	754480.74	472304.83	32°17'47.598"N	103°38'36.693"W	20.03	
10800.00†	33.256	182.745	10790.84	46.84	-46.78	-2.24	754478.86	472265.62	32°17'47.210"N	103°38'36.718"W	20.03	
10900.00†	53.289	182.745	10863.28	115.04	-114.90	-5.51	754475.59	472197.50	32°17'46.536"N	103°38'36.761"W	20.03	
11000.00†	73.323	182.745	10907.97	203.92	-203.69	-9.77	754471.33	472108.72	32°17'45.658"N	103°38'36.817"W	20.03	
11083.25	90.000	182.745	10920.00	286.00	-285.67	-13.70	754467.40	472026.74	32°17'44.847"N	103°38'36.869"W	20.03	EOC
11100.00†	90.000	182.745	10920.00	302.75	-302.40	-14.50	754466.60	472010.01	32°17'44.681"N	103°38'36.879"W	0.00	
11200.00†	90.000	182.745	10920.00	402.75	-402.29	-19.29	754461.81	471910.13	32°17'43.693"N	103°38'36.943"W	0.00	
11300.00†	90.000	182.745	10920.00	502.75	-502.18	-24.08	754457.02	471810.25	32°17'42.705"N	103°38'37.006"W	0.00	
11400.00†	90.000	182.745	10920.00	602.75	-602.06	-28.87	754452.23	471710.36	32°17'41.717"N	103°38'37.069"W	0.00	
11500.00†	90.000	182.745	10920.00	702.75	-701.95	-33.66	754447.44	471610.48	32°17'40.729"N	103°38'37.133"W	0.00	
11600.00†	90.000	182.745	10920.00	802.75	-801.83	-38.45	754442.65	471510.60	32°17'39.741"N	103°38'37.196"W	0.00	
11700.00†	90.000	182.745	10920.00	902.75	-901.72	-43.24	754437.86	471410.72	32°17'38.753"N	103°38'37.259"W	0.00	
11800.00†	90.000	182.745	10920.00	1002.75	-1001.60	-48.03	754433.08	471310.84	32°17'37.765"N	103°38'37.322"W	0.00	
11900.00†	90.000	182.745	10920.00	1102.75	-1101.49	-52.82	754428.29	471210.96	32°17'36.777"N	103°38'37.386"W	0.00	
12000.00†	90.000	182.745	10920.00	1202.75	-1201.37	-57.61	754423.50	471111.08	32°17'35.789"N	103°38'37.449"W	0.00	
12100.00†	90.000	182.745	10920.00	1302.75	-1301.26	-62.39	754418.71	471011.20	32°17'34.801"N	103°38'37.512"W	0.00	
12200.00†	90.000	182.745	10920.00	1402.75	-1401.14	-67.18	754413.92	470911.31	32°17'33.813"N	103°38'37.576"W	0.00	
12300.00†	90.000	182.745	10920.00	1502.75	-1501.03	-71.97	754409.13	470811.43	32°17'32.825"N	103°38'37.639"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No.5 SHL
Area	Lea County, NM	Well	No.5
Field	(Diamondtail) Sec 23, T23S, R32E	Wellbore	No.5 PWB
Facility	Diamondtail 23 Federal No.5		

WELLPATH DATA (167 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12400.00†	90.000	182.745	10920.00	1602.75	-1600.91	-76.76	754404.34	470711.55	32°17'31.837"N	103°38'37.702"W	0.00	
12500.00†	90.000	182.745	10920.00	1702.75	-1700.80	-81.55	754399.55	470611.67	32°17'30.849"N	103°38'37.765"W	0.00	
12600.00†	90.000	182.745	10920.00	1802.75	-1800.68	-86.34	754394.76	470511.79	32°17'29.861"N	103°38'37.829"W	0.00	
12700.00†	90.000	182.745	10920.00	1902.75	-1900.57	-91.13	754389.97	470411.91	32°17'28.873"N	103°38'37.892"W	0.00	
12800.00†	90.000	182.745	10920.00	2002.75	-2000.45	-95.92	754385.18	470312.03	32°17'27.885"N	103°38'37.955"W	0.00	
12900.00†	90.000	182.745	10920.00	2102.75	-2100.34	-100.71	754380.39	470212.15	32°17'26.896"N	103°38'38.018"W	0.00	
13000.00†	90.000	182.745	10920.00	2202.75	-2200.22	-105.50	754375.60	470112.27	32°17'25.908"N	103°38'38.082"W	0.00	
13100.00†	90.000	182.745	10920.00	2302.75	-2300.11	-110.29	754370.82	470012.38	32°17'24.920"N	103°38'38.145"W	0.00	
13200.00†	90.000	182.745	10920.00	2402.75	-2399.99	-115.08	754366.03	469912.50	32°17'23.932"N	103°38'38.208"W	0.00	
13300.00†	90.000	182.745	10920.00	2502.75	-2499.88	-119.87	754361.24	469812.62	32°17'22.944"N	103°38'38.272"W	0.00	
13400.00†	90.000	182.745	10920.00	2602.75	-2599.77	-124.66	754356.45	469712.74	32°17'21.956"N	103°38'38.335"W	0.00	
13500.00†	90.000	182.745	10920.00	2702.75	-2699.65	-129.45	754351.66	469612.86	32°17'20.968"N	103°38'38.398"W	0.00	
13600.00†	90.000	182.745	10920.00	2802.75	-2799.54	-134.24	754346.87	469512.98	32°17'19.980"N	103°38'38.461"W	0.00	
13700.00†	90.000	182.745	10920.00	2902.75	-2899.42	-139.03	754342.08	469413.10	32°17'18.992"N	103°38'38.525"W	0.00	
13800.00†	90.000	182.745	10920.00	3002.75	-2999.31	-143.82	754337.29	469313.22	32°17'18.004"N	103°38'38.588"W	0.00	
13900.00†	90.000	182.745	10920.00	3102.75	-3099.19	-148.61	754332.50	469213.34	32°17'17.016"N	103°38'38.651"W	0.00	
14000.00†	90.000	182.745	10920.00	3202.75	-3199.08	-153.39	754327.71	469113.45	32°17'16.028"N	103°38'38.714"W	0.00	
14100.00†	90.000	182.745	10920.00	3302.75	-3298.96	-158.18	754322.92	469013.57	32°17'15.040"N	103°38'38.778"W	0.00	
14200.00†	90.000	182.745	10920.00	3402.75	-3398.85	-162.97	754318.13	468913.69	32°17'14.052"N	103°38'38.841"W	0.00	
14300.00†	90.000	182.745	10920.00	3502.75	-3498.73	-167.76	754313.34	468813.81	32°17'13.064"N	103°38'38.904"W	0.00	
14400.00†	90.000	182.745	10920.00	3602.75	-3598.62	-172.55	754308.55	468713.93	32°17'12.076"N	103°38'38.967"W	0.00	
14500.00†	90.000	182.745	10920.00	3702.75	-3698.50	-177.34	754303.77	468614.05	32°17'11.088"N	103°38'39.031"W	0.00	
14600.00†	90.000	182.745	10920.00	3802.75	-3798.39	-182.13	754298.98	468514.17	32°17'10.100"N	103°38'39.094"W	0.00	
14700.00†	90.000	182.745	10920.00	3902.75	-3898.27	-186.92	754294.19	468414.29	32°17'09.112"N	103°38'39.157"W	0.00	
14800.00†	90.000	182.745	10920.00	4002.75	-3998.16	-191.71	754289.40	468314.40	32°17'08.124"N	103°38'39.221"W	0.00	
14900.00†	90.000	182.745	10920.00	4102.75	-4098.04	-196.50	754284.61	468214.52	32°17'07.136"N	103°38'39.284"W	0.00	
15000.00†	90.000	182.745	10920.00	4202.75	-4197.93	-201.29	754279.82	468114.64	32°17'06.148"N	103°38'39.347"W	0.00	
15100.00†	90.000	182.745	10920.00	4302.75	-4297.81	-206.08	754275.03	468014.76	32°17'05.160"N	103°38'39.410"W	0.00	
15200.00†	90.000	182.745	10920.00	4402.75	-4397.70	-210.87	754270.24	467914.88	32°17'04.171"N	103°38'39.474"W	0.00	
15300.00†	90.000	182.745	10920.00	4502.75	-4497.58	-215.66	754265.45	467815.00	32°17'03.183"N	103°38'39.537"W	0.00	
15400.00†	90.000	182.745	10920.00	4602.75	-4597.47	-220.45	754260.66	467715.12	32°17'02.195"N	103°38'39.600"W	0.00	
15426.35	90.000	182.745	10920.00†	4629.10	-4623.79	-221.71	754259.40	467688.80	32°17'01.935"N	103°38'39.617"W	0.00	No.5 PBHL



Planned Wellpath Report

Rev-A.0

Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No.5 SHL
Area	Lea County, NM	Well	No.5
Field	(Diamondtail) Sec 23, T23S, R32E	Wellbore	No.5 PWB
Facility	Diamondtail 23 Federal No.5		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No.5 PBHL (Rev-0)	15426.35	10920.00	-4623.79	-221.71	754259.40	467688.80	32°17'01.935"N	103°38'39.617"W	point

SURVEY PROGRAM - Ref Wellbore: No.5 PWB Ref Wellpath: Rev-A.0				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	15426.35	NaviTrak (Standard)		No.5 PWB

SR & A

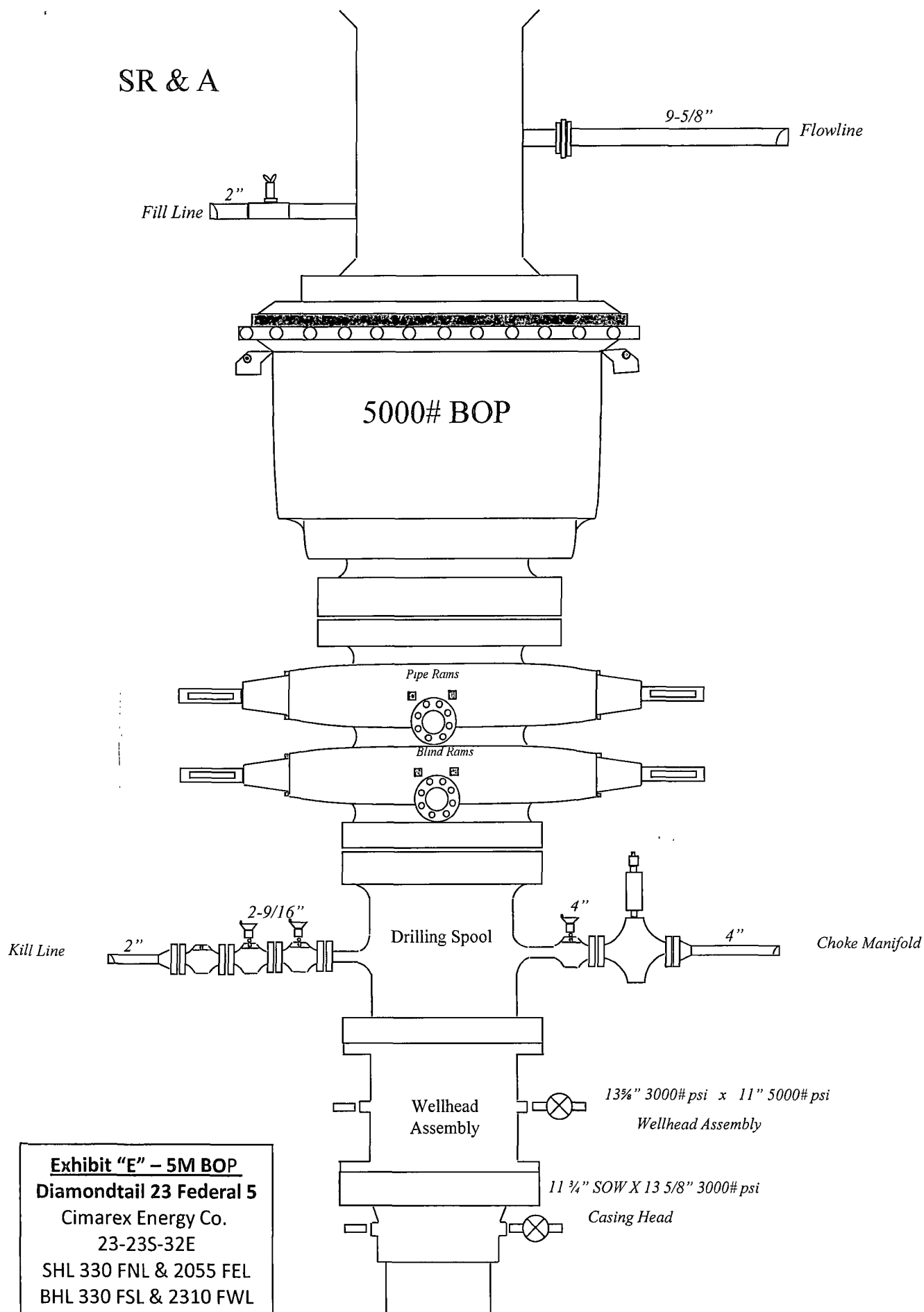
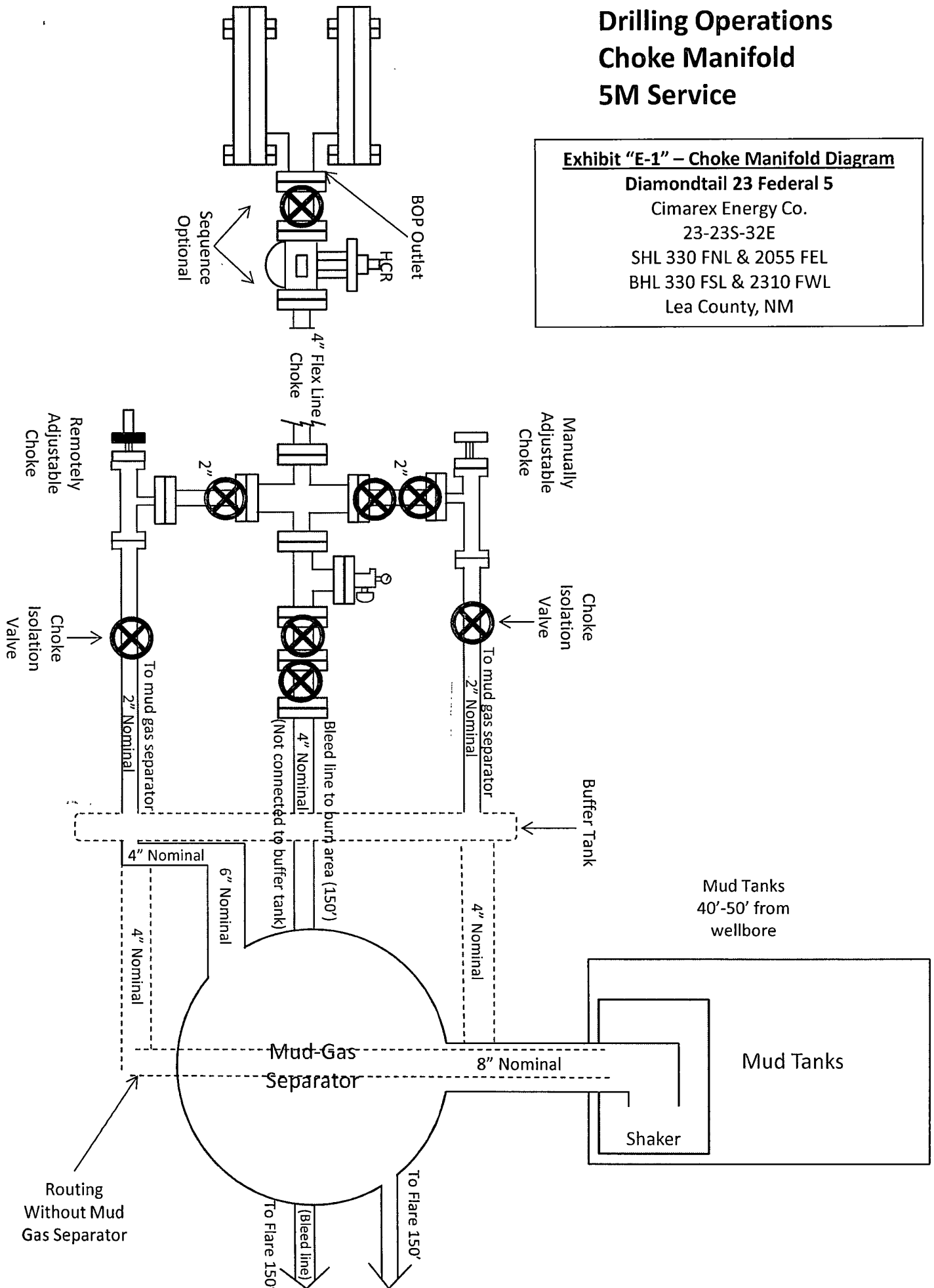
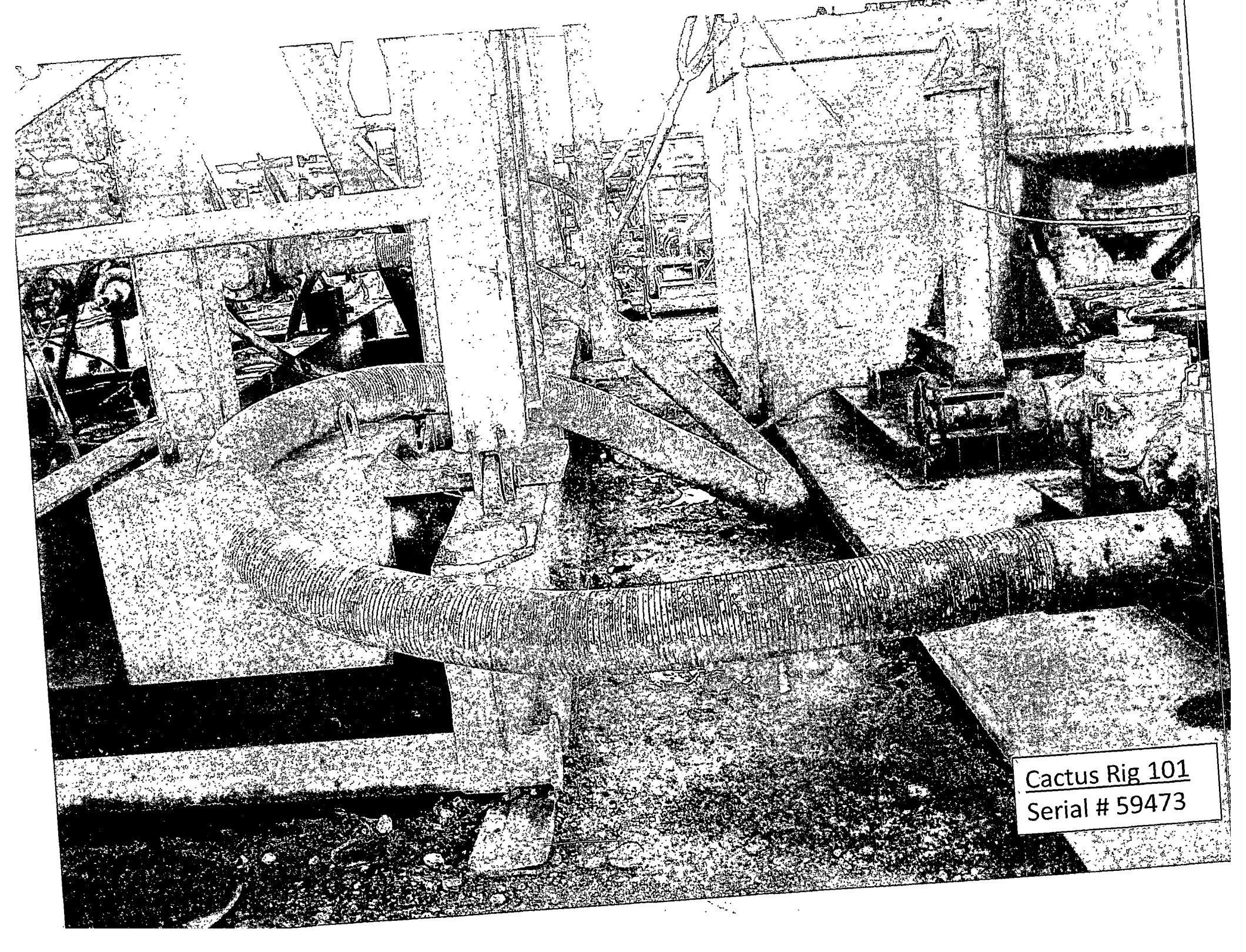


Exhibit "E" – 5M BOP
Diamondtail 23 Federal 5
 Cimarex Energy Co.
 23-23S-32E
 SHL 330 FNL & 2055 FEL
 BHL 330 FSL & 2310 FWL
 Lea County, NM

Lea County, NM





Cactus Rig 101
Serial # 59473

M I D W E S T
HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT			
Customer: CACTUS		P.O. Number: Rig#101 Asset#M5358	
HOSE SPECIFICATIONS			
Type: CHOKER LINE		Length: 35'	
I.D. 4" INCHES		O.D. 8" INCHES	
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI		BURST PRESSURE PSI
COUPLINGS			
Type of End Fitting 4 1/16 10K FLANGE			
Type of Coupling: SWEDGED		MANUFACTURED BY MIDWEST HOSE & SPECIALTY	
PROCEDURE			
<i>Hose assembly pressure tested with water at ambient temperature.</i>			
TIME HELD AT TEST PRESSURE 15 MIN.		ACTUAL BURST PRESSURE: 0 PSI	
COMMENTS: s/n#59473 Asset#M5358 Hose is covered with stainless steel armour cover and wrapped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes			
Date: 5/19/2010	Tested By: BOBBY FINK		Approved: MENDI JACKSON



Midwest Hose
& Specialty, Inc.

Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermiculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unbolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)

Cimarex Energy Co. of Colorado – Closed-Loop System Design Plan

Equipment List

- Primary Shakers
- Mud Cleaner – hydro-cyclones
- 1 or 2 Centrifuges (depending on well depth)
- De-watering system with pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing (may not be necessary for shallower wells)
- Drying Augur
- Sump Drying Augur
- Sump
- Cuttings Boxes
- Reserve Fluids Tank Farm
- Wire Mesh Trash Enclosure (spent motor oils kept in separate containers and later sent to approved landfill)

Operation and Maintenance

The Cimarex Zero Discharge system is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This ensures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

These closed loop operations can be monitored by our service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

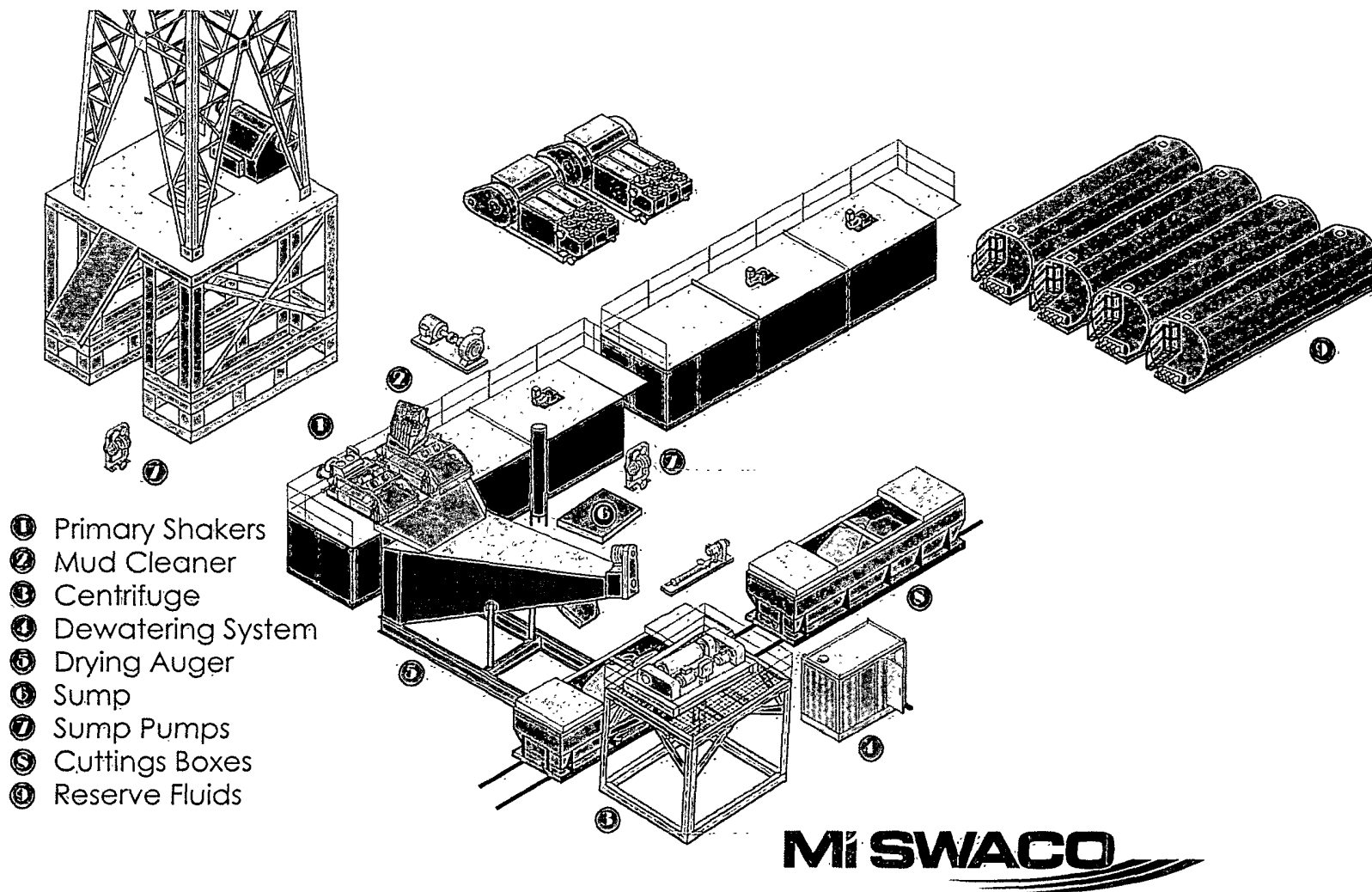
Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and tested for all regulated toxic materials. If found they are removed and disposed of per regulatory requirements.

Closure Plan

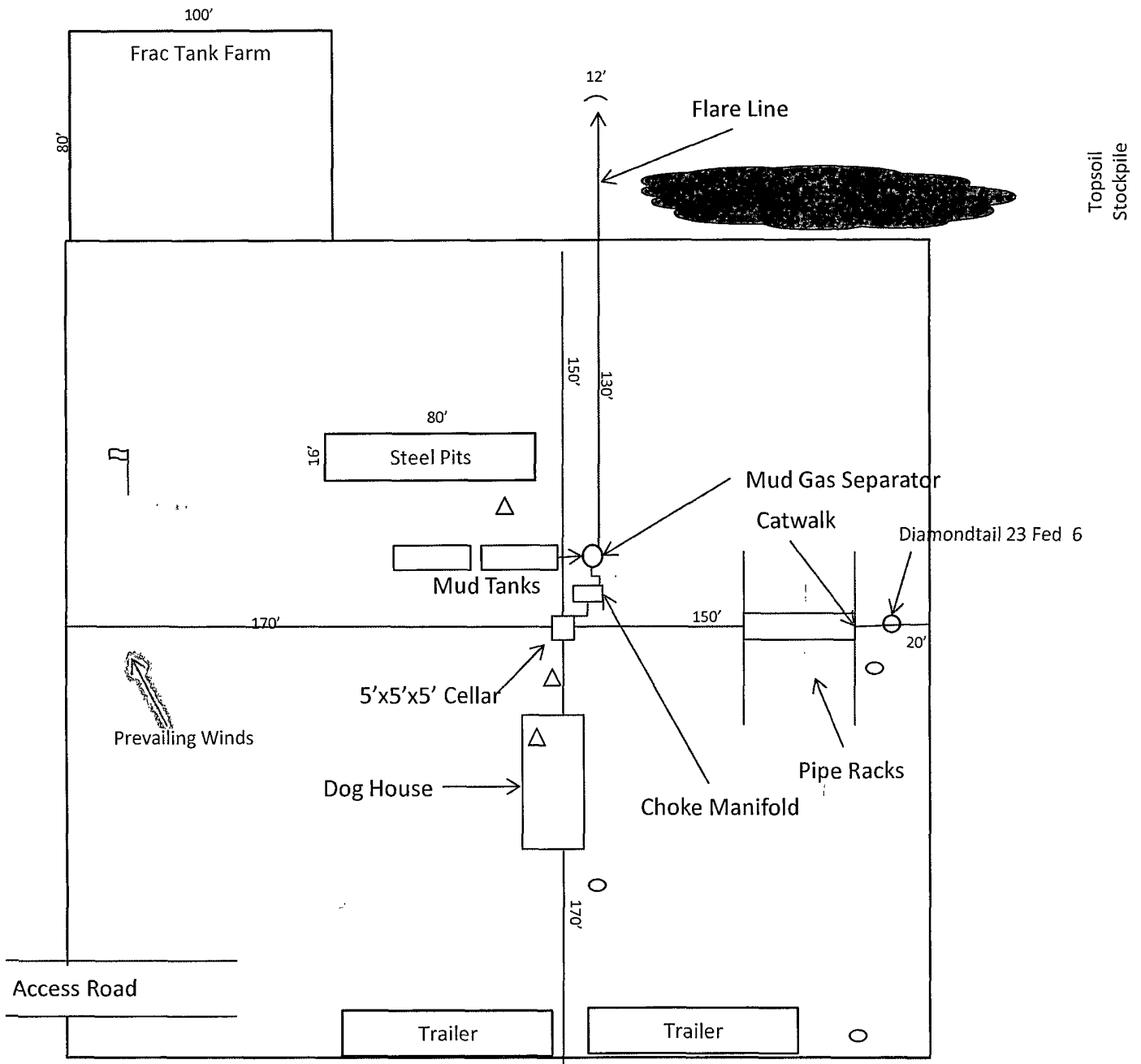
During drilling operations, all liquids, drilling fluids, and cuttings will be hauled off via CRI (Controlled Recovery Incorporated, Permit R-9166).



Closed Loop with Drying Auger and Dewatering System



Cactus 101



-  Wind Direction Indicators (wind sock or streamers)
-  H2S Monitors (alarms at bell nipple and shale shaker)
-  Briefing Areas

N



Exhibit "D" – Rig Diagram
Diamondtail 23 Federal 5
 Cimarex Energy Co.
 23-23S-32E
 SHL 330 FNL & 2055 FEL
 BHL 330 FSL & 2310 FWL
 Lea County, NM

Hydrogen Sulfide Drilling Operations Plan

Diamondtail 23 Federal 5

Cimarex Energy Co.

Unit C, Section 23

T23S-R32E; Lea County, NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H₂S detectors, warning system and briefing areas.
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
- 2 **H₂S Detection and Alarm Systems:**
 - A. H₂S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse.
- 3 **Windsock and/or wind streamers:**
 - A. Windsock at mudpit area should be high enough to be visible.
 - B. Windsock at briefing area should be high enough to be visible.
- 4 **Condition Flags and Signs:**
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H₂S present in dangerous concentration). Only emergency personnel admitted to location.
- 5 **Well control equipment:**
 - A. See exhibit "E"
- 6 **Communication:**
 - A. While working under masks chalkboards will be used for communication.
 - B. Hand signals will be used where chalk board is inappropriate.
 - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
- 7 **Drillstem Testing:**

No DSTs or cores are planned at this time.
- 8 Drilling contractor supervisor will be required to be familiar with the effects H₂S has on tubular goods and other mechanical equipment.
- 9 If H₂S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H₂S scavengers if necessary.